Answers to Coursebook exercises

7 Fractions

Exercise 7.1 Writing a fraction in its simplest form

1 **a** $\frac{2}{3}$ **b** $\frac{4}{5}$ **c** $\frac{3}{5}$ **d** $\frac{4}{5}$ **e** $\frac{2}{3}$ **f** $\frac{6}{7}$

2 **a** $\frac{1}{3}$ **b** $\frac{2}{5}$ **c** $\frac{2}{3}$ **d** $\frac{3}{4}$ **e** $\frac{3}{5}$ **f** $\frac{3}{5}$

3 **b** $\frac{13}{19} = \frac{13 \times 12}{19 \times 12} = \frac{156}{228}$, wrong. Answer $= \frac{13}{18}$

c $\frac{34}{37} = \frac{34 \times 9}{37 \times 9} = \frac{306}{333}$, wrong. Answer $= \frac{35}{38}$

4 **a** $\frac{9}{14}$ **b** $\frac{13}{18}$ **c** $\frac{11}{21}$ **d** $\frac{13}{15}$ **e** $\frac{7}{11}$ **f** $\frac{3}{5}$

Exercise 7.2 Adding and subtracting fractions

1 **a** $\frac{5}{9}$ **b** $\frac{7}{10}$ **c** $\frac{9}{14}$ **d** $\frac{4}{9}$ **e** $\frac{2}{3}$ **f** $\frac{5}{8}$

g $1\frac{7}{15}$ **h** $1\frac{5}{18}$ **i** $1\frac{7}{12}$ **j** $\frac{3}{20}$ **k** $\frac{2}{15}$ **l** $\frac{11}{40}$

2 **a** ② $\frac{10}{15} + \frac{12}{15} = \frac{22}{15}$, $\frac{22}{15} = 1\frac{7}{15}$ ③ $8 + 1\frac{7}{15} = 9\frac{7}{15}$

b ② $\frac{69}{12} - \frac{46}{12} = \frac{23}{12}$ ③ $\frac{23}{12} = 1\frac{11}{12}$

3 **a** $3\frac{1}{8}$ **b** $5\frac{7}{15}$ **c** $5\frac{23}{36}$ **d** $5\frac{13}{28}$ **e** $18\frac{3}{40}$ **f** $10\frac{13}{30}$

g $2\frac{9}{10}$ **h** $1\frac{5}{24}$ **i** $1\frac{9}{14}$ **j** $4\frac{3}{4}$ **k** $4\frac{5}{12}$ **l** $1\frac{23}{36}$

4 e.g. $\frac{1}{4} + \frac{1}{4} = \frac{1}{2}$, $\frac{1}{3} + \frac{1}{3} = \frac{2}{3}$

5 **a** $3\frac{1}{20}$ m

b Check students' answers.

6 **a** $\frac{23}{24}$ m

b Check students' answers.

Exercise 7.3 Multiplying fractions

1 **a** 9 **b** 20 **c** 36 **d** 27 **e** 84 **f** 140

2 **a** $13\frac{1}{2}$ **b** $17\frac{1}{3}$ **c** $6\frac{2}{3}$ **d** $31\frac{1}{2}$ **e** $2\frac{1}{2}$ **f** $22\frac{1}{2}$

3 **a** $\frac{15}{28}$ **b** $\frac{3}{10}$ **c** $\frac{18}{55}$ **d** $\frac{10}{21}$ **e** $\frac{5}{16}$ **f** $\frac{8}{39}$

g $\frac{1}{3}$ **h** $\frac{2}{3}$ **i** $\frac{3}{8}$ **j** $\frac{2}{15}$ **k** $\frac{10}{33}$ **l** $\frac{6}{35}$

4 **a** $5\frac{2}{5}$ **b** $8\frac{1}{4}$ **c** $3\frac{9}{16}$ **d** $4\frac{1}{2}$

e $17\frac{1}{4}$ **f** $10\frac{4}{7}$ **g** $1\frac{1}{9}$ **h** $3\frac{9}{11}$

5 For example, $\frac{3}{2} \times \frac{3}{2} = \frac{9}{4}$, $\frac{3}{2} < \frac{9}{4}$; $\frac{6}{4} \times \frac{6}{4} = \frac{36}{16} = \frac{9}{4} = 2\frac{1}{4}$, $\frac{6}{4} < 2\frac{1}{4}$

6 **a** $\frac{3}{32}$ **b** $\frac{1}{4}$

Unit 7 Answers to Coursebook exercises

Exercise 7.4 Dividing fractions

1 **a** 28 **b** 35 **c** 63 **d** 22 **e** 33 **f** 40

g $22\frac{1}{2}$ **h** $30\frac{1}{3}$ **i** $13\frac{1}{2}$ **j** $27\frac{1}{2}$ **k** $69\frac{1}{3}$ **l** $73\frac{1}{2}$

2 **a** $1\frac{1}{20}$ **b** $1\frac{17}{18}$ **c** $1\frac{19}{36}$ **d** $1\frac{1}{5}$ **e** $1\frac{5}{9}$ **f** $1\frac{1}{6}$

g 4 **h** $1\frac{1}{3}$ **i** $1\frac{1}{4}$ **j** $\frac{20}{21}$ **k** $1\frac{1}{9}$ **l** $\frac{9}{10}$

3 **a** $\frac{5}{6}$ **b** $1\frac{7}{20}$ **c** $\frac{99}{124}$ **d** $\frac{32}{39}$

e 2 **f** $2\frac{2}{95}$ **g** $1\frac{3}{8}$ **h** $\frac{2}{7}$

4 For example, $2\frac{1}{2} \div 3\frac{1}{2} = \frac{5}{7}$; $1\frac{3}{4} \div 2\frac{3}{8} = \frac{14}{19}$

5 **a** $\frac{14}{15}$ **b** $2\frac{6}{7}$ **c** $1\frac{1}{7}$ **d** $1\frac{1}{9}$ **e** $\frac{11}{27}$ **f** $1\frac{1}{11}$

Exercise 7.5 Working with fractions mentally

1 **a** $\frac{1}{2}$ **b** $\frac{7}{8}$ **c** $\frac{7}{10}$ **d** $\frac{7}{8}$ **e** $1\frac{1}{6}$ **f** $1\frac{4}{15}$

g $\frac{8}{15}$ **h** $\frac{11}{28}$ **i** $\frac{19}{45}$ **j** $1\frac{5}{12}$ **k** $\frac{33}{40}$ **l** $1\frac{1}{12}$

2 **a** $\frac{2}{9}$ **b** $\frac{1}{8}$ **c** $\frac{2}{15}$ **d** $\frac{1}{2}$ **e** $\frac{7}{10}$ **f** $\frac{3}{20}$

g $\frac{1}{6}$ **h** $\frac{11}{20}$ **i** $\frac{3}{14}$ **j** $\frac{13}{28}$ **k** $\frac{5}{24}$ **l** $\frac{5}{36}$

3 **a** $\frac{1}{15}$ **b** $\frac{2}{21}$ **c** $\frac{9}{20}$ **d** $\frac{16}{63}$ **e** $\frac{8}{45}$ **f** $\frac{24}{65}$

g $\frac{1}{6}$ **h** $\frac{1}{15}$ **i** $\frac{8}{11}$ **j** $\frac{20}{27}$ **k** $\frac{3}{5}$ **l** $\frac{6}{11}$

4 **a** $\frac{1}{2}$ **b** $\frac{1}{3}$ **c** $\frac{5}{7}$ **d** $\frac{5}{8}$ **e** $1\frac{4}{5}$ **f** $1\frac{1}{2}$

g $\frac{5}{6}$ **h** $1\frac{3}{7}$ **i** $\frac{7}{8}$ **j** $1\frac{1}{9}$ **k** $1\frac{1}{12}$ **l** $\frac{8}{9}$

5 $\frac{5}{12}$

6 $\frac{13}{30}$

7 **a** $\frac{9}{20}$ **b** $\frac{3}{20}$

8 **a** $\frac{1}{3}$ **b** $\frac{2}{9}$

End-of-unit review

1 **a** $\frac{1}{3}$ **b** $\frac{4}{5}$ **c** $\frac{3}{4}$ **d** $\frac{2}{5}$ **e** $\frac{5}{7}$ **f** $\frac{7}{9}$

2 **a** $\frac{7}{9}$. Student's check

3 **a** $\frac{5}{8}$ **b** $\frac{1}{3}$ **c** $1\frac{7}{30}$ **d** $5\frac{1}{24}$ **e** $2\frac{11}{15}$ **f** $3\frac{19}{24}$

4 **a** $1\frac{7}{20}$ m **b** Student's check

5 **a** 9 **b** 180 **c** $3\frac{8}{9}$ **d** $\frac{8}{45}$ **e** $\frac{2}{3}$ **f** $\frac{1}{4}$

6 **a** $\frac{1}{16}$ **b** $\frac{8}{25}$

7 **a** 15 **b** $24\frac{1}{2}$ **c** $62\frac{1}{2}$ **d** $1\frac{7}{20}$ **e** $1\frac{5}{28}$ **f** $1\frac{1}{5}$

8 For example, $\frac{4}{3} \div \frac{3}{2} = \frac{8}{9}$